

Introduction

Honors
Earth Science

Earth's 4 "spheres"

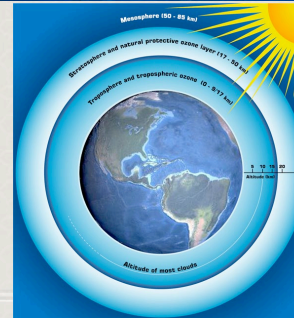
★ Hydrosphere

★ Ocean- most prominent feature

★ nearly 71% of Earth's surface

★ about 97% of Earth's water

★ Atmosphere



✧ *Solid Earth- Lithosphere*

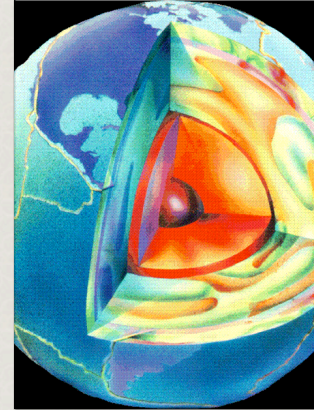
✧ *Earth's rigid outer layer*

✧ *core, mantle, crust*

✧ *Divisions of Earth's surface*

✧ *continents*

✧ *ocean basins*

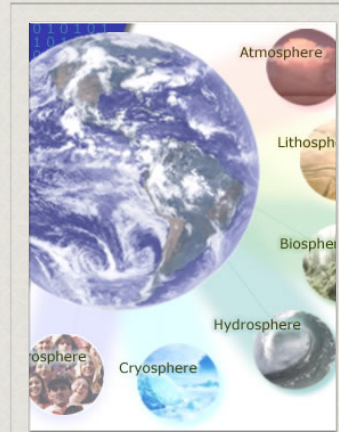


- ✿ *Biosphere*
- ✿ *includes all life*
- ✿ *influences other 3 spheres*



Earth As A System

- ✿ *System- a group of interacting, or interdependent parts that form a whole*
- ✿ *political system*
- ✿ *solar system*
- ✿ *Interface- common boundary where parts of a system come in contact and interact*



Earth's Energy

- ☼ *Sun- drives external processes*
 - ☼ *weather and climate*
 - ☼ *ocean circulation*
 - ☼ *erosional processes*
- ☼ *Earth's interior- drives internal processes*
 - ☼ *volcanoes, earthquakes, mountain building*



Resources & Environmental Issues

✧ *Environment*

- ✧ *surrounds and influences organisms*

- ✧ *influences on organisms*

- ✧ *biological*

- ✧ *social*

- ✧ *nonliving*

- ✧ *water, air, soil, rock*



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☼ Resources

☼ *important environmental concerns*

☼ *include*

☼ *water, soil, minerals, energy*

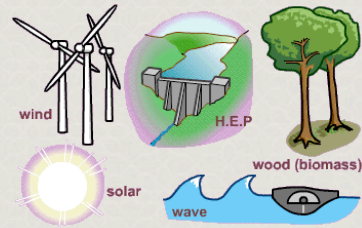
☼ *Two Broad Categories*

☼ *Renewable*

☼ *plants, wind energy*

☼ *Nonrenewable*

☼ *fixed quantities: metals, fuels*



continued...

- ✿ *environmental problems*

- ✿ *local, regional, global*

- ✿ *human-induced and accentuated*

- ✿ *urban air pollution*

- ✿ *acid rain*

- ✿ *ozone depletion*

- ✿ *global warming*

- ✿ *Natural Hazards*

- ✿ *earthquakes, landslides, floods, hurricanes*

- ✿ *World Population Pressures*



Scientific Inquiry

- ✿ *Science assumes the natural world is*
 - ✿ *consistent*
 - ✿ *predictable*
- ✿ *Goal of Science*
 - ✿ *discover patterns in nature*
 - ✿ *to use knowledge to predict*



continued...

- ✿ *An idea can become a*
 - ✿ *hypothesis (untested)*
 - ✿ *theory (tested & confirmed)*
- ✿ *Scientific Method*
 - ✿ *gather facts through observation*
 - ✿ *formulate*
 - ✿ *hypothesis*
 - ✿ *theories*

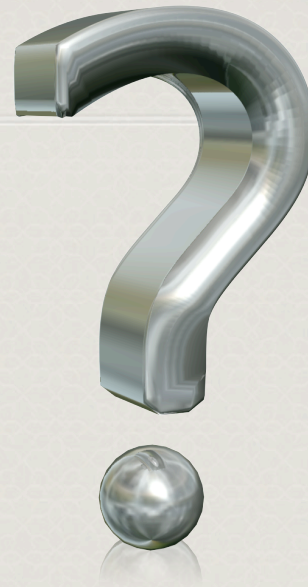


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- ✿ *scientific knowledge is gained through*
- ✿ *following systematic steps*
 - ✿ *collecting facts*
 - ✿ *developing a hypothesis*
 - ✿ *conduct experiments*
 - ✿ *reexamine the hypothesis*



- ✿ *knowledge can also be gained by theories that withstand examination*
- ✿ *totally unexpected occurrences*



Earth Science

- ✧ *Encompasses all sciences that seek to understand*
- ✧ *Earth*
- ✧ *Earth's neighbors in space*



☼ *Includes*

☼ *Geology*

☼ *physical- materials
composing Earth*

☼ *historical- the
origin &
development of
Earth*



✧ *Oceanography*

✧ *chemistry*

✧ *physics*

✧ *geology*

✧ *biology*

✧ *Meteorology*

✧ *Astronomy*



WHY SHOULD WE STUDY EARTH SCIENCE?

